

SEQUENCE LISTING

<110> Toyota Central R&D Labs., Inc.  
Toyota Jidosha Kabushiki Kaisha

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<130> FNTCA001WO

<150> JP2003-379076

<151> 2003-11-07

<160> 47

<170> PatentIn version 3.1

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&lt;213&gt; Bovine

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1).. (999)

&lt;223&gt; Lactate Dehydrogenase

&lt;400&gt; 7

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48

cat	gtc	ccc	cag	aat	aag	att	aca	att	gtt	ggg	gtt	ggt	gct	gtt	ggc
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96

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Met	Ala	Cys	Ala	Ile	Ser	Ile	Leu	Met	Lys	Asp	Leu	Ala	Asp	Glu	Val
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144

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Ala	Leu	Val	Asp	Val	Met	Glu	Asp	Lys	Leu	Lys	Gly	Glu	Met	Met	Asp
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192

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Leu	Gln	His	Gly	Ser	Leu	Phe	Leu	Arg	Thr	Pro	Lys	Ile	Val	Ser	Gly
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240

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Lys	Asp	Tyr	Asn	Val	Thr	Ala	Asn	Ser	Arg	Leu	Val	Ile	Ile	Thr	Ala
85								90					95		

288

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Gly	Ala	Arg	Gln	Gln	Glu	Gly	Glu	Ser	Arg	Leu	Asn	Leu	Val	Gln	Arg
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336

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Asn	Val	Asn	Ile	Phe	Lys	Phe	Ile	Ile	Pro	Asn	Ile	Val	Lys	Tyr	Ser
115					120					125					

384

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130				135						140					

432

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480

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Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu	
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His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly	
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Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys	
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Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu	
225 230 235 240	
gtg atc aaa ctg aaa ggc tac aca tcc tgg gcc att gga ctg tca gtg	768
Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val	
245 250 255	
gcc gat ttg gca gaa agt ata atg aag aat ctt agg cgg gtg cat ccg	816
Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro	
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Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe	
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Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser Asp Val Val	
290 295 300	
aaa gtg act ctg act cat gaa gaa gag gcc tgt ttg aag aag agt gca	960
Lys Val Thr Leu Thr His Glu Glu Ala Cys Leu Lys Lys Ser Ala	
305 310 315 320	
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Ala	Leu	Val	Asp	Val	Met	Glu	Asp	Lys	Leu	Lys	Gly	Glu	Met	Met	Asp
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Leu	Gln	His	Gly	Ser	Leu	Phe	Leu	Arg	Thr	Pro	Lys	Ile	Val	Ser	Gly
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Gly	Ala	Arg	Gln	Gln	Glu	Gly	Glu	Ser	Arg	Leu	Asn	Leu	Val	Gln	Arg
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Asn	Val	Asn	Ile	Phe	Lys	Phe	Ile	Ile	Pro	Asn	Ile	Val	Lys	Tyr	Ser
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195 200 205

Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys  
210 215 220

Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu  
225 230 235 240

Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val  
 245 250 255

Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro  
260 265 270

Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe  
275 280 285

Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser Asp Val Val  
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51

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99

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 Ala Val Gly Met Ala Cys Ala Ile Ser Ile Leu Met Lys Asp Leu Ala  
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147

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195

Asp Glu Val Ala Leu Val Asp Val Met Glu Asp Lys Leu Lys Gly Glu		
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65	70	75
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Val Ser Gly Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile		
80	85	90
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Ile Thr Ala Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu		
95	100	105
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Val Gln Arg Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val		
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Lys Tyr Ser Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp		
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Val Ile Gly Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu		
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Met Gly Glu Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile		
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Leu Gly Glu His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn		
190	195	200
205		
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Val Ala Gly Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp		
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Ala Asp Lys Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser		
225	230	235
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Ala Tyr Glu Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly		

240	245	250		
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gat gtt ttt ttg tct gtt cca tgt att ttg ggt caa aat ggt att tct Asp Val Phe Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser 290                    295                    300				915
gat gtt gtt aaa gtt act ttg act cat gaa gaa gaa gct tgt ttg aaa Asp Val Val Lys Val Thr Leu Thr His Glu Glu Glu Ala Cys Leu Lys 305                    310                    315				963
aaa tct gct gat act ttg tgg ggt att caa aaa gaa ttg caa ttt taa Lys Ser Ala Asp Thr Leu Trp Gly Ile Gln Lys Glu Leu Gln Phe 320                    325                    330				1011
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Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile Val Ser Gly  
 65 70 75 80

Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile Ile Thr Ala  
 85 90 95

Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu Val Gln Arg  
 100 105 110

Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val Lys Tyr Ser  
 115 120 125

Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr  
 130 135 140

Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg Val Ile Gly  
 145 150 155 160

Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu Met Gly Glu  
 165 170 175

Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu  
 180 185 190

His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly  
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Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys  
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Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu  
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Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val  
 245 250 255

Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro  
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Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe  
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Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser Asp Val Val  
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